REMARKS/ ARGUMENTS

Claims 1-16 are pending.

Claims 4-13 and 15 have been withdrawn.

Claim 14 has been amended.

Claim 16 has been added.

Support for the amendments is found in the claims and specification, as originally filed. Support for claim 14 can be found in paragraph [0025]. Support for claim 16 can be found in paragraphs [0001]; [0002]; [0006]; and [0025].

No new matter is believed to have been added.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) over Ito et al., JP 09-201424 and Kekish et al., US 4,428,310.

Claim 3 and 14 are rejected under 35 U.S.C. 103(a) over Ito et al., Kekish et al., and Pearson, US 4,552,803.

The rejections are traversed because the combination of the references:

(1) does not describe or suggest a deodorant comprising a powder of an amine salt of a phosphorous inorganic acid having an average particle diameter of 5-20 μm,

(2) one would not have been motivated to modify an ammonium dihydrophosphate powder of the Ito et al. fire extinguisher with the particle size of the Kekish et al. aluminum phosphate because (i) Ito et al. teach away from using powder having an average diameter under 20 μm as in the Kekish et al. slag fusion, (ii) the Ito et al. fire extinguisher is specifically designed for a specific purpose to comprise the ammonium dihydrophosphate powder and ammonium sulfate having an average diameter greater that 5-20 μm, and (iii) Ito et al. have a goal of providing a pressurizing type powder extinguisher for an oil fire [0005], while Kekish et al. achieve the slug fusion (abstract),

(3) a deodorant being a solution, a paint or an aqueous emulsion, wherein the deodorant comprises from 0.5 to 20 mass % of the powder salt of a phosphorus inorganic acid (as in claim 16),

(4) the claimed deodorant provides an unexpected result.

In addition with regard to claim 3 and 14:

(a) Pearson does not disclose and suggest which of the (b) to (f) components deodorize objectionable formaldehyde odors,

(b) Pearson does not describe that the powder is a solution, a paint, or an aqueous emulsion, and the deodorant comprises from 0.5 to 20 mass % of the powder salt of a phosphorus inorganic acid,

(c) one would not have reasonably expected that selecting and incorporating an ammonium phosphate (one of the Pearson components) would have deodorized objectionable formaldehyde odors without actually conducting experiments because Pearson does not disclose and suggest which of the (b) to (f) components deodorize objectionable formaldehyde odors, and

(d) one would not have reasonably expected that incorporating all the components (b)-(f) of Pearson into the Ito et al. fire extinguisher and/or the Kekish et al. slag composition would have improved (and/or at least preserved) the properties of the Ito et al. fire extinguisher and/or the Kekish et al. slag composition for the intended use without actually conducting experiments because Ito et al. and Kekish et al. describe that specifically designed composition are used to achieve their goals.

The claimed deodorant comprises a powder of an amine salt of a phosphorus inorganic acid, the powder having an average particle diameter of 5 to 20 μm (as in claim 1).

Also, the claimed deodorant is a solution, a paint, or an aqueous emulsion, and comprises from 0.5 to 20 mass % of the powder salt of a phosphorus inorganic acid (as in claim 16).

The claimed deodorant possesses an excellent formaldehyde deodorizing capability and also deodorizing formaldehydes emitted not only from the deodorant and but also from other products (the present specification page 2, [0005]).

Ito et al. describe a fire extinguishing powder which is a mixture of ammonium dihydrophosphate and ammonium sulfate (abstract). Ito et al. describe that improving the mobility of fire extinguishing powders in a pressurized type powder fire extinguisher applied to an ordinary wood fire is important but has not been achieved with known powders ([0003]-[0006], [0040]-[0042]). In order to solve this problem, Ito et al. use (i) a mixture of ammonium dihydrophosphate and ammonium sulfate, and (ii) a specific abundance ratios, i.e., 2.4-3.1 for 53 μm or less/20 μm or less and 1.5-2.0 for 38 μm or less /20 μm or less ([0007], [0040]-[0042]; the Examples). Ito et al. describes that smaller powder particles do not provide a good performance to a wood fire extinguisher (as Ito et al.'s) because the whole surface area becomes large, and may be only good for an oil fire ([0003]-[0005]).

The Examiner points out that the Ito et al. extinguishing agent comprises a powder of ammonium dihydrogen phosphate having diameter of 1.5 to 53 microns. However, Ito et al. do not disclose ammonium dihydrogen phosphate having diameter of 1.5 to 53 microns.

Ito et al. disclose the following (i) and (ii) (abstract):

(i) The extinguishing agent comprises a mixed powder of mainly ammonium dihydrogen phosphate and ammonium sulfate.

(ii) The mixed powder is prepared so as to have a weight ratio of the powder having diameter of 53 microns or less to the powder having diameter of 20 microns or less is in a

range of 2.4-3.1 and also a weight ratio of the powder having diameter of 38 microns or less to the powder having diameter of 20 microns or less is in a range of 1.5-2.0.

Thus, the powder of Ito et al. is prepared so as to satisfy the following ratios:

$$\frac{\text{The powder having diameter of 53 microns or less}}{\text{The powder having diameter of 20 microns or less}} = \text{2.4 to 3.1 (weight ratio)}$$

or

$$\frac{\text{The powder having diameter of 38 microns or less}}{\text{The powder having diameter of 20 microns or less}} = \text{1.5 to 2.0 (weight ratio)}$$

The Ito et al. powder inevitably contains larger particles (i.e., 53 μm or 38 μm) in a significantly greater amount than the particles of the smaller size (i.e., 20 μm).

Ito et al. disclose that a standard shifter of JIS Z8001 having a diameter of 70 mm is used [0017]. Since the shifter of JIS Z8001 has fine openings of 53 μm, 30 μm and 20 μm, sonic sifting is employed. The main component powder is adjusted such that the particle diameter of 50% cumulative distribution is 40 ± 3μm to 60 ± 3μm (paragraph [0017], see the attached automatic English translation).

Therefore, the average particle diameter of Ito et al.'s powder cannot be 5 μm to 20 μm base on the disclosure of Ito et al.

Kekish et al. describe an aluminum phosphate powder that is added for a modified slag composition to increase a fusion temperature of a slag (col. 2). A particle size of the an *aluminum* phosphate powder is under 20 μm (Example D).

The combination of the cited references does not describe or suggest a deodorant comprising a powder of an amine salt of a phosphorus inorganic acid, wherein the powder having an average particle diameter of 5 to 20 μm (as in claim 1).

Also, the combination of the cited references does not describe or suggest a deodorant being a solution, a paint or an aqueous emulsion, wherein the deodorant comprises from 0.5

to 20 mass % of the powder salt of a phosphorus inorganic acid and the powder an average diameter of 5 to 20 μm (as in claim 16).

One would not have been motivated to modify an *ammonium* dihydrophosphate powder of the Ito et al. pressurized fire extinguisher with the particle size of the Kekish et al. *aluminum* phosphate because:

(i) A particle size which works for the Kekish et al. *aluminum* phosphate and for the Kekish et al. slag fusion process does not necessarily work for an *ammonium* dihydrophosphate powder of the Ito et al. pressurized fire extinguisher.

(ii) Ito et al. teach away from using powder having an average diameter under 20 μm as in the Kekish et al. slag fusion because small particles do not work well for an ordinary fire and the pressurized fire extinguisher([0003]-[0005]; [0040]-[0042]).

(iii) The Ito et al. fire extinguisher is specifically designed for a specific purpose to comprise the ammonium dihydrophosphate powder and ammonium sulfate having an average diameter greater that 5-20 μm so that the powder can be used in a pressurized fire extinguisher to extinguish a wood fire. Kekish et al. describe an aluminum phosphate powder that is added to a modified slag composition to increase a fusion temperature of a slag. Thus, Ito et al. and Kekish et al.'s goals are different that their goals are achieved by a different design (e.g., different powders having a mutually exclusive particle size).

One would not have reasonably expected achieving (i) a better (or at least comparable) performance of the Ito et al. pressurized fire extinguisher, and/or (ii) a formaldehyde deodorizing capability as in the claimed deodorant (see page 3 of the present specification), by substituting the powder size of Ito et al. (i.e., the size greater that 5-20 μm) with that of Kekish et al. (i.e., the size under 20 μm) because (a) Ito et al. and Kekish et al.'s goals (and the claimed deodorant) are different and their goals are achieved by a different design (e.g., different powders having a mutually exclusive particle size), and (b) neither Ito

et al. and Kekish et al. describe or suggest that the ammonium dihydrophosphate powder having an average diameter of 5 to 20 μm possesses deodorizing capabilities.

Moreover, the claimed deodorant provides an unexpected result. The Examples of the present specification show that when the powder of Examples 1 and 2 is compared with the powder of Comparative Example 3, it is apparent that an amine salt of a phosphorus inorganic acid whose average particle diameter is not 5 to 20 μm cannot give advantageous effects of the claimed powder. Thus, the claimed powder provides a superior result.

In addition, in would not have been obvious to modify the powder of Ito et al. to obtain the powder comprising an amine salt of a phosphorus inorganic acid having an average particle diameter of 5 to 20 μm because Ito et al. is solving a problem of providing a fire extinguisher for an oil fire [0005], while the claimed deodorant powder inhibits formaldehyde emission from materials and odor in the environment.

Thus, Ito et al. and Kekish et al. do not make the claimed deodorant powder obvious.

Concerning claims 3 and 14, Pearson does not cure the deficiency of Ito et al. and Kekish et al.

(a) Pearson describe a fire retardant composition comprising a powder of ammonium phosphate. However, Pearson does not describe an average diameter of theammonium phosphate particles of 5-20 μm. Pearson does not recognize that the average diameter is important for fire retardation. The fire retardation composition of Pearson is required to comprise a specific amount of various components to provide satisfactory fire retardation, but is not required to have a specific particle size. Therefore, selecting and adjusting the particle size is not a result-effective variable because the prior art first has to first recognize that a particular property (i.e., inhibition of a formaldehyde emission from materials and odor in the

environment) is a function of the size of the powder comprising an amine salt of a phosphorous inorganic acid. The cited references do not recognize such a dependency.

In addition, Examples 1-2 and Comparative Example 3 of the present specification show that an amine salt of a phosphorus inorganic acid whose average particle diameter is not 5 to 20 μm cannot give advantageous effects of the claimed powder.

(b) The Examiner is of the opinion Pearson describes the use of ammonium phosphate in fire-retardant which do not have objectionable odors (pages 5-6 of the Official Action). However, the Pearson fire retardant comprises a number of components, e.g., (a) an aldehyde, (b) an ammonium phosphate, (c) ammonium, alkali metal or alkaline earth metal or a salt thereof, (d) a urea reactant, (e) hydroxy reactant, and (f) phosphoric acid (see col. 2 and claim 1). Pearson does not disclose and suggest which of the (b) to (f) components deodorize objectionable formaldehyde odors.

In addition, Pearson discloses that a powder provides an improvement over liquid resins and, therefore, Pearson uses a powder composition applied to wood (col. 2, lines 20-67), while the deodorant of claim 16 is a solution, a paint, or an aqueous emulsion, and the deodorant comprises from 0.5 to 20 mass % of the powder salt of a phosphorus inorganic acid.

One would not have reasonably expected that selecting and incorporating an ammonium phosphate (one of the Pearson components) would have deodorized objectionable formaldehyde odors without actually conducting experiments because Pearson does not disclose and suggest which of the (b) to (f) components deodorize objectionable formaldehyde odors.

In addition, one would not have reasonably expected that incorporating all the components (b)-(f) of Pearson into the Ito et al. fire extinguisher and/or the Kekish et al. slag composition would have improved (and/or at least preserved) the properties of the Ito et al.

fire extinguisher and/or the Kekish et al. slag composition for the intended use without actually conducting experiments because Ito et al. and Kekish et al. describe that specifically designed composition are used to achieve their goals.

Thus, Ito et al., Kekish et al., and Pearson do not make the claimed deodorant and a plywood obvious.

Applicants request that the rejections be withdrawn.

The above-identified application is a national stage of the PCT/JP04/16828 application, filed November 12, 2004, which claims priority to the Japanese application JP 2003-385543, filed November 14, 2003. Applicants submitted a certified copy of the priority application and a Request for Priority under 35 U.S.C. 119 on May 12, 2006.

Applicants request AGAIN that the foreign priority be acknowledged.

A Notice of Allowance for all pending claims is requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Marina I. Miller, Ph.D.
Attorney of Record
Registration No. 59,091

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)